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REPORT

of the

DEPARTMENT OF DEFENCE PRODUCTION

January 1 to December 31, 1962

OTTAWA

TWELFTH REPORT

of the

DEPARTMENT

of

DEFENCE

PRODUCTION

1962

Honourable RAYMOND O'HURLEY, *Minister*

G. W. HUNTER, *Deputy Minister*

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To His Excellency Major General Georges P. Vanier, DSO, MC, CD,
Governor-General and Commander-in-Chief of Canada.

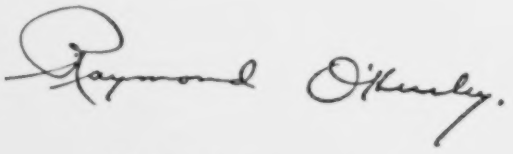
MARCH 20, 1963

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit to Your Excellency the Report of the Department of Defence Production for the calendar year 1962.

A summary of the operations and services rendered by this Department, under their respective headings, is laid before Your Excellency.

Respectfully submitted,



Minister of Defence Production.

105-04276/

MARCH 19, 1963

The Honourable Raymond O'Hurley, P.C., M.P.,
Minister of Defence Production,
Ottawa, Ontario.

DEAR SIR:

I have the honour to submit the Report of the Department of Defence Production, which covers the operations and services rendered during the calendar year 1962.

Yours faithfully,

Deputy Minister.

Table of Contents

PAGE

Responsibilities and Organization 9
Implications of the Glassco Commission Report 11

Production and Procurement 12
Defence Contracting, 1962 14
Aircraft 15
Armament 18
Electronics 20
Shipbuilding 22
Machine Tools and Gauges 24
General Purchasing 25
Procurement by Offices Outside Canada 26

Defence Production and Development Sharing 28

Canadian Co-operation in NATO on Research, Development and Production 31
Defence Exports to Overseas Countries 31

Defence Production and Canadian Industry 33
Materials Supply 34

Emergency Supply Planning 36

Advisory and Service Branches 37
Administration Branch 37
Comptroller's Branch 37
Economics and Statistics Branch 38
Financial Adviser's Branch 38
Legal Branch 39
Secretary's Branch 39

Appendices

A Organization Chart of the Department 40
B Directory of Senior Personnel 41
C Distribution of Departmental Staff 42
D Crown Companies Associated with the Department 43
E District Purchasing Offices and Offices Located Outside Canada 44
F Statistics of Defence Contracts and Expenditures 47
G Report on the Audit of the Accounts 55

Responsibilities and Organization

UNDER the provisions of the Defence Production Act[1], by which the Department of Defence Production was established on April 1, 1951, the Department has:

(1) exclusive authority to procure the goods and services required by the Department of National Defence, and

(2) the responsibility to ensure that the necessary production capacity and materials are available to support the defence production programme.

The Department also has responsibility for defence development and production sharing with the United States, for defence production export activities with other Allied countries, and for armament co-operation within NATO. It co-operates with other Government departments to promote and strengthen the research capability of Canadian defence industry.

The Department utilizes the services of Canadian Commercial Corporation to assist it in obtaining foreign defence business for Canadian industry. It does the procurement for the Corporation, which is a Crown company primarily responsible for the purchase in Canada of defence goods required by other governments and of supplies needed to meet Canadian commitments under the Colombo Plan and other international agreements.

The organization of the Department, which had 1,520 employees on strength at the end of 1962, is essentially as follows:

Five production branches are responsible for obtaining defence supplies requiring specialized production facilities and for the direct implementation of the defence production sharing programme and other overseas exports of military equipment. These are the Aircraft, Armament, Electronics, Machine Tool and Shipbuilding Branches.

A General Purchasing Branch, which includes district purchasing offices in fourteen cities across Canada, procures the supplies and services not normally requiring special production facilities.

An office in Washington, U.S.A., maintains liaison with various United States Government agencies, is actively involved with the defence production sharing programme, handles procurement from the United States Armed Services, and directs a sub-office at Wright-Patterson Air Force Base, Ohio. Six production sharing liaison offices are located in the United States.

[1] Revised Statutes of Canada 1952, Chapter 62, as amended.

66779-0—2

An office in London, England, conducts procurement activity in Britain. A small sub-office is located at Prestwick Airport, Scotland, to expedite certain repair and overhaul activities. Sub-offices in Paris, France, and Koblenz, Federal Republic of Germany, handle the normal procurement in those countries.

A defence development and production sharing office co-ordinates the Canada-United States programme as well as activities associated with NATO research, development and production programmes and defence exports to other Allied countries.

Seven advisory and service branches provide supporting activities to the Department's main procurement responsibility. These are the Administration, Comptroller's, Economics and Statistics, Financial Adviser's, Industrial Security, Legal and Secretary's Branches.

An Emergency Supply Planning Branch is working on plans and preparations for bringing a War Supplies Agency into immediate existence should a nuclear war occur.

Two defence production attachés are maintained in Europe. One is located in Bonn, Federal Republic of Germany, to represent Canada on the European Organization for Direction and Control of the F-104G programme. The other is located in the Canadian Embassy in Paris to assist Canadian industry to participate in European defence requirements.

The Department is represented by two members on the Canadian Delegation to the North Atlantic Council in Paris, France. These members are responsible for liaison with other national delegations and with the NATO international staff, and for making the Canadian viewpoint known on defence production matters of common concern to several members of the Alliance. They represent Canada on the NATO Armaments Committee which, in turn, controls a wide variety of expert working groups.

Military construction is the prime responsibility of Defence Construction (1951) Limited, a Crown company reporting to Parliament through the Minister of Defence Production. Occasional reference to military construction is made in this Report in order to show the magnitude of the direct effect of the defence preparedness programme on Canadian industry.

In addition to Canadian Commercial Corporation and Defence Construction (1951) Limited, three other Crown companies report to Parliament through the Minister of Defence Production. These are Canadian Arsenals Limited, Crown Assets Disposal Corporation and Polymer Corporation Limited. An account of the activities of the five associated Crown agencies is contained in their respective Annual Reports.

Implications of the Glassco Commission Report

Several recommendations in the first three volumes of the Report of the Royal Commission on Government Organization directly affect the Department of Defence Production. Steps were taken late in the year to implement one of the main suggestions in this study concerning the establishment of a Traffic Advisory Group, charged with the responsibility of improving traffic management throughout the Public Service. The group that is now being formed will concern itself with the efficient movement of both goods and personnel. During the course of the next calendar year the Department will be implementing several other recommendations in the Report in order to make further and continuing improvement in the way in which it handles its procurement activity.

66779-0—2½

Production and Procurement

THE Canadian defence preparedness buildup following the outbreak of war in Korea in 1950 reached the peak of its effect on the Canadian economy in 1953. In that year more than $1 billion was paid directly to prime defence contractors in this country for the equipment, supplies, services and construction activity required by the Department of National Defence. Thereafter, a steady decrease in equipment requirements for the Canadian Armed Forces as the initial buildup phase was completed resulted in a shrinking flow of defence dollars into Canadian industry. Direct payments to Canadian defence contractors fell off fairly steadily to a level just over $550 million, which has been maintained for the past three years.

The effect of this general decline in defence production and construction activity on Canadian industry was softened as a result of a continuing growth in the civilian sector of the economy as well as the gradual nature of the expenditure decline itself. Although not causing serious economic consequences in the overall economy, certain industries and sections of the country were noticeably affected by this fall-off in demand by the Canadian Armed Forces for goods and services.

The uneconomic effects on defence production of the decreasing requirements of the Armed Forces were relieved for a period by extending production runs to supply equipment to European countries under the Canadian mutual aid programme, sometimes jointly with United States mutual aid. This programme was largely phased out as these other countries took over more of the financing and production of their military equipment requirements, although a major joint Canada-United States mutual aid programme for the production of F-104G aircraft is now underway.

The need for a high level of defence preparedness on a continuing basis indicated that a modern, technically competent defence production base should be maintained as an inherent part of the Canadian economy and should contribute to its strength and growth. Crown owned defence production assets that had been bought under the Department's capital assistance programme were sold to contractors wherever possible or made available to them on a rental basis for use on commercial work. The sale or rental of these assets was generally on condition that their future use by the Crown for defence production purposes would be protected. This direct capital assistance was substantially reduced as defence contractors were encouraged to make their own investment in assets required for the production of military equipment. In this way, defence contractors were able to integrate their defence and civilian production to a greater extent, thus minimizing dislocations from changing military requirements.

The concept of continental defence accentuated the trend toward the adoption by the Canadian Forces of United States-type equipment. The complex nature of the important weapons systems, their vulnerability to rapid obsolescence, and the sophisticated research, development and production processes involved, resulted in most of the vital equipment being developed and initially produced in the United States. In cases where the Canadian requirement was too small to permit economic production in Canada, the equipment had to be purchased directly from the United States. Where production in Canada was considered necessary, the cost of royalties and technical assistance as well as of strategic components still meant an outflow of Canadian defence money to the United States.

This trend meant that an increasing proportion of the Canadian defence dollar would go to United States industry, thus reducing the amount available for Canadian industry, unless corrective action was taken. The Canada-United States defence production sharing programme was initiated to offset the effects of this dependence on United States developed equipment by encouraging a greater amount of United States defence production business in Canada. The success of this programme is covered in a later section of this Report.

As this concept of international weapons integration developed on a wider scale in the NATO organization, the need for defence production sharing arrangements with NATO countries other than the United States became apparent. During the past two years the Department has devoted some effort to interesting other Allied countries in Canadian miliary equipment.

The ability of Canadian industry to compete effectively with other countries for defence production business is, in the long run, dependent upon its ability to develop equipment and components that have the potential to meet some future military requirement, and to be able to produce items of required quality within necessary time limits at a competitive price. In recent years the Department has initiated financial programmes, in some cases jointly shared with other governments and the contractors concerned, to assist Canadian defence industry. These include assistance in developing items that have some potential in the field of defence production, in establishing qualified sources for the production of component parts and materials, and in making selected production items competitive with United States products. Details of this Departmental assistance to Canadian defence contractors are contained in other sections of this Report.

The Department is continuing in this important task of obtaining an equitable share of the overall defence production requirements. This is done with the realization that foreign defence business assists in keeping down the cost of the limited requirements of the Canadian Armed Forces, contributes to the standardization of military equipment among Allied countries, and benefits the

Canadian economy through its effect on such factors as employment and the balance of payments.

The benefits of this assistance are not limited to defence production. The resulting technological advances in the complex production operations of highly sophisticated weapons systems spread readily into other areas of Canadian production. Thus the economy as a whole is made stronger and better able to make its way in world markets.

In these various ways the Department has endeavoured to anticipate the effect on the Canadian economy of changes in defence concepts and requirements, and to provide the direction, encouragement and financial assistance to industry in this country so that it may benefit to the greatest extent from such changes and from the overall defence production requirements of the Western World.

Defence Contracting, 1962

Contracts having a total net value of $797.6 million were issued in 1962, an increase of 20.7 per cent over the comparable total of $660.7 million in the previous year. The "net value" of contracts is made up of the value of new contracts issued as well as amendments that increased or decreased the value of existing contracts.

The largest group of contracts, having a net value of $536.7 million, was issued for the Department of National Defence. This is 1.5 per cent higher than the value of such Canadian Government defence contracts issued in 1961.

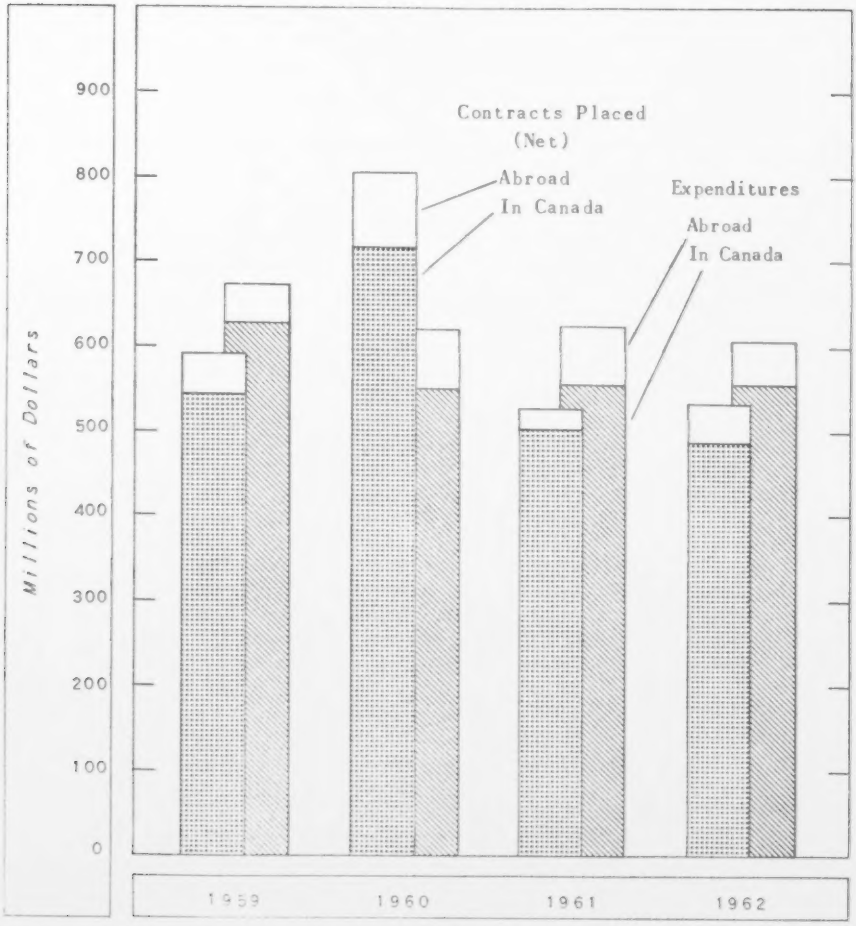
Foreign government defence (and a small amount of non-defence) prime contracts placed in Canada through Canadian Government agencies totalled $225.6 million in 1962, of which $202.9 million was for the United States, $14.3 million for the Federal Republic of Germany and $1.1 million for Britain. The corresponding value of foreign government prime contracts placed in Canada in 1961 is $100.6 million.

Contracts issued against this Department's Votes to assist Canadian defence industry had a net value of $9.4 million in 1962, compared with $15.9 million in the preceding year.

In addition to the above groups of contracts, a total of almost $25.0 million was issued for Canadian external aid and almost $1.0 million for a miscellany of other purposes.

The above figures, and those contained in Appendix F of this Report, relate only to prime contracts administered by the Department of Defence Production and its associated Crown companies, Canadian Commercial Corporation and Defence Construction (1951) Limited. They do not include $5.0 million in prime contracts placed directly with Canadian contractors by foreign govern-

Contracts Placed on Behalf of the Department of National Defence and Related Expenditures



ments and $112.2 million in subcontracts placed in Canada by United States and other foreign defence contractors. Further reference to these direct prime contracts and subcontracts, which are reported to the Department by Canadian companies, is contained in the sections of this Report covering the defence production sharing programme and overseas defence exports.

Aircraft

The requirements of the Department of National Defence for aircraft, aircraft equipment and related services resulted in the placement of contracts by the Aircraft Branch in 1962 having a net value of $202.4 million. This was

an increase of $88.2 million over the value for 1961. Contracts placed on behalf of foreign governments, primarily the United States Government, amounted to $86.8 million in 1962, as compared with $32.7 million in the preceding year.

Production of the CF-104 Super Starfighter aircraft, which is replacing the F-86 Sabre in Europe, was well maintained throughout the year. Some adjustments were made to the CF-104 production schedule during the latter part of the year to permit the smooth phasing-in of F-104G production for the joint Canada-United States mutual aid programme. The Canadian company producing the CF-104 has assumed full responsibility for all technical and engineering aspects of the programme.

The production in Canada of CF-104 systems, pyrotechnics, tires, drag chutes, pumps and pylon tanks was well maintained and showed a very satisfactory domestic content. Canadian production began on the inertial platform gyro, which previously had been secured from the United States. Most of the gyros now being produced are for the European F-104G production programme.

The agreement entered into in 1961 between the Governments of Canada and the United States for a quantity of F-104G aircraft for mutual aid resulted in contracts being placed during the latter part of the year. These contracts will extend the production of Canadian companies that are close to completing requirements for the Canadian CF-104 programme.

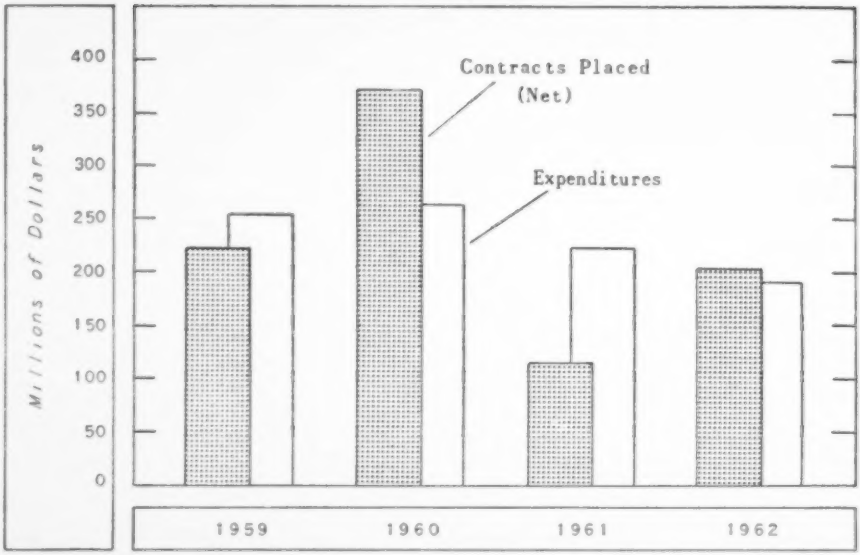
Early in the year deliveries of the initial order for fourteen dual seat CF-104D jet trainer aircraft was completed. A contract was placed for a further eight trainers, with delivery to commence early in 1963.

A contract was placed at mid-year for 190 CT-114 Tutor primary jet trainer aircraft for the Royal Canadian Air Force. The first aircraft is scheduled for delivery late in 1963. A prototype of the CT-114R systems trainer was flown during the year. This aircraft is being evaluated by various NATO countries as a possible weapons systems trainer.

Production of the Caribou I aircraft was accelerated to meet the requirements of the United States Army, which ordered an additional 101 of these aircraft during the year. This brought to 162 the number of Caribou aircraft ordered by the United States Army. At the end of the year negotiations were underway on a possible further sale of Caribou aircraft to the United States Army. The success of the Caribou I is such that other foreign Governments have expressed an interest in both the Caribou I and the Caribou II, which is a turbine powered version of the Caribou I with an enlarged fuselage.

Contracts were let for eight CHSS-2 (Sikorsky) helicopters for use in an anti-submarine warfare role by the Royal Canadian Navy. Five of these helicopters will be assembled in Canada, with the first scheduled for delivery early in 1964.

Contracts Placed by the Aircraft Branch on behalf of the Department of National Defence and Related Expenditures



Production of the J79-7 turbo-jet engine for the CF-104 aircraft was well maintained throughout the year, with a total of 160 engines produced. A contract was placed for the J79-11A engines for the mutual aid F-104G programme and work advanced to the stage where deliveries will be made early in 1963. The selection of the J85/CJ610 engine for the CT-114 trainer aircraft enabled an early start to be made on the plan for Canadian production of a substantial quantity. Delivery of T58 turbo-shaft engines for use in the CH-113 (Vertol 107 II) heavy helicopter was completed during the year, and a further quantity was ordered for the CHSS-2 helicopter. These programmes have increased the capability of Canadian manufacturers to compete in the defence production sharing programme with encouraging results.

The replacement of older type aircraft held by the Royal Canadian Navy and the Royal Canadian Air Force with smaller quantities of more modern and highly complex aircraft has created a problem in the repair and overhaul sector of the industry. The introduction of the more sophisticated aircraft and equipment affects the type of facility required, and the smaller quantities decrease the number of employees needed to perform repair and overhaul operations. However, it is expected that the volume of such work will remain fairly constant throughout 1963.

The Aircraft Branch's defence development and production sharing activity continued at an accelerated pace in the United States as well as other countries.

66779-0—3

Canadian representatives participated in working groups, involving United States and other NATO countries, which carried out activities that were aimed at increased participation by the Canadian aircraft industry in foreign defence requirements. A substantial increase in foreign contracts placed with Canadian industry occurred during the year.

In the area of research and development, a feasibility study on a hydrofoil craft was successfully concluded during 1962 and continuation of the programme is expected to lead to the development and construction of a 200-ton prototype. In addition, the development of the PT-6 turbo-shaft engine continued at a most satisfactory level. A cost sharing arrangement was entered into between the United States Army, the Canadian contractor and this Department for the design, development and prototyping of the Caribou II aircraft. Four prototypes, to be flown and evaluated by the United States Army, will be built under this programme.

The development of the XM-571 high mobility tracked vehicle proceeded satisfactorily and is well into the trial period. This vehicle is being built for the United States Government. The surveillance and target acquisition drone system under development has been the subject of detailed discussions between the British and Canadian Governments with a view to joint development, prototyping and test trials of this system. The joint Canada-United States development of a 600 h.p. stationary gas turbine engine proceeded satisfactorily.

Armament

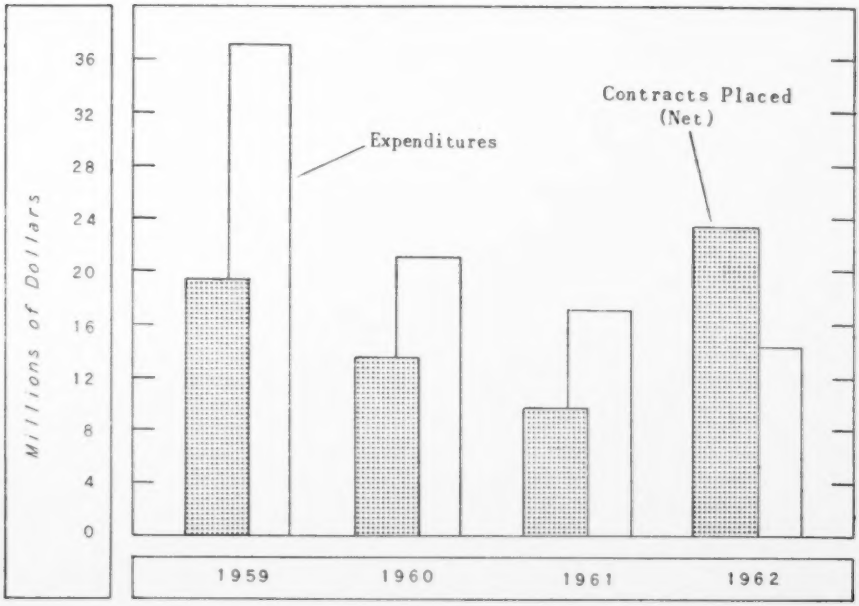
The decline over the past few years in Canadian military requirements for standard weapons and ammunition continued during 1962, but this was more than offset by new requirements for the replacement of guns by guided weapons systems.

Contracting for the Canadian Armed Forces increased from $9.8 million in 1961 to $23.5 million. The Branch's continued participation in defence development and production sharing activities contributed to the placement in Canada of $7.8 million in prime contracts and $24 million in subcontracts from other countries, principally the United States.

A number of major long-term ammunition production contracts were completed during the year. These included 105mm howitzer, 60mm, 81mm, 90mm, 3″/50 calibre, 4″, 9mm blank, and various types of 7.62mm ammunition. In addition, production of 7.62mm rifles and delivery of the SS.10 anti-tank missile for the Canadian Army were concluded. Deliveries on a reduced scale continued during the year on 20 pounder and 105mm tank ammunition, 3″/70 calibre ammunition, anti-submarine cartridges, practice depth charges, and 9mm

and .30 calibre ball ammunition. Other items produced included tank navigation equipment, a range of pyrotechnics, and spares and accessories for existing military weapons.

Contracts Placed by the Armament Branch on behalf of the Department of National Defence and Related Expenditures



Contracts were issued for the production in Canada of acoustic homing torpedoes for both the Royal Canadian Navy and the Royal Canadian Air Force. Also, contracts were placed in France for SS.11 and Entac anti-tank missile systems for the Canadian Army. Procurement planning got under way on the weapons systems for the Frigate programme of the Royal Canadian Navy. These systems feature both medium and close range anti-aircraft missile installations along with 5″/38 calibre guns and torpedoes. This production planning proceeded as part of the overall ship programme.

In the field of defence exports, the Branch increased its efforts to locate and exploit opportunities for Canadian firms to participate in defence development and production programmes of the United States and other Allied countries.

The Branch administered a number of development assistance contracts designed to exploit unique Canadian developments. These included such projects as the Jiger vehicle, a fuel flame mixer, a hydro-jet propulsion device, a foam-in-place shelter and a family of atmospheric sounding rockets.

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The development programme of the Black Brant upper atmospheric research rocket made good progress during the year, with successful test firings in the United States. The establishment of a solid rocket propellant plant in Canada progressed, with completion and commencement of production scheduled for early 1963.

Representation at NATO Working Group meetings was increased, especially in the area of weapons systems, such as the M72 light anti-tank weapon, where emphasis has been placed on arrangements that could lead to establishment of shared production pools within NATO for those systems adopted.

Electronics

The Electronics Branch issued contracts having a total net value of $80.9 million in 1962 to meet the requirements of the Canadian Armed Forces for electronic equipment and related services. Payments to contractors against these contracts and similar contracts placed in earlier years amounted to $102.6 million. Research, development and production of equipment accounted for 60 per cent of total expenditures, and the operation and maintenance of existing equipment accounted for the remainder. In addition, contracts valued at $57.7 million were issued by the Branch for other governments, principally the Governments of the United States and the Federal Republic of Germany. Payments against foreign government contracts totalled almost $40 million during 1962.

About $3 million was spent during the year in support of electronic industrial technology, so that Canadian industry would be in a position to meet future defence requirements of Allied countries. Production for existing foreign defence requirements continued in a number of areas.

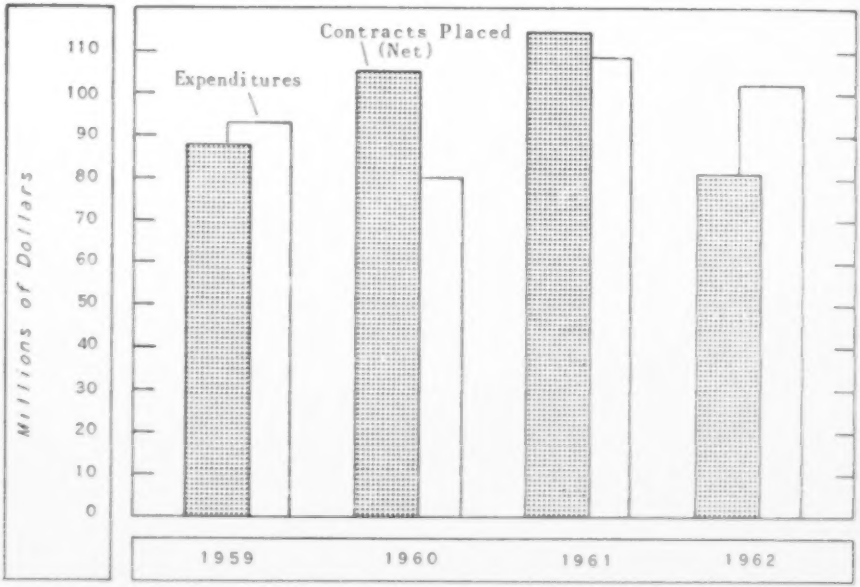
Radar, radiac and sonar equipment continued in production on a limited scale. Production of a counter mortar radar for the Canadian Army got under way and evaluation models were sold to the Federal Republic of Germany and to Italy. Interest in this radar has also been shown by other countries. Foreign defence requirements, particularly those of the United States, accounted for a significant level of production for such items as radomes, countermeasure equipment, plotting tables and sonobuoys. Previous Canadian expenditure on the development of these items contributed to this production for export. Departmental support was provided for further development by Canadian firms in such fields as sonar, radar, infrared and radiac detection, and data processing, so as to broaden the industrial base through Canadian production in these areas.

Communication and navigation equipment for various surface installations continued at a steady level. Production of line and radio equipment for the Canadian Army's communications network was largely completed. Procurement planning commenced on modernization of ground communication facilities of

the Royal Canadian Air Force and on communication equipment for the new general purpose Frigate programme. Industrial experience and capability in the general communications area resulted in orders for Canadian equipment from other countries. In anticipation of future requirements, industrial developmental support continued in more specialized applications in the communications field.

Electronics production for the CF-104 aircraft programme continued to be the largest single programme in the Branch. Production of fire control, computing and display equipment was supplemented by the requirement for the Canada-United States mutual aid F-104G programme.

Contracts Placed by the Electronics Branch on behalf of the Department of National Defence and Related Expenditures



Aircraft communications, navigation identification and airborne anti-submarine warfare equipment continued to be produced at a steady level. Production in the navigational area, which is being supplemented by United States orders, is also the result of past Canadian development work. This design work received continuing support with a view to anticipating electronic requirements from helicopter and vertical and short take-off and landing (V/STOL) aircraft programmes.

Aircraft flight and tactical simulators were in production for the Royal Canadian Air Force and for several other NATO countries. A models control

trainer was completed for the Royal Canadian Navy, and a United States order for machine controls was received as a result of Canadian industrial competence in this field.

Some armament electronic development based on past Canadian work in the infrared field continued for the United States. This development is expected to lead to the incorporation of some Canadian units in weapons which will be widely used by NATO countries.

The three main areas of operation and maintenance activity continued to be related to the Pinetree and Mid-Canada radar lines, the leasing of line communications for all sources, and the repair and overhaul of electronic equipment for ships, aircraft and armaments. The leasing of line communications is contributing both to production in Canadian industry and to the growth of civilian communications.

Special attention continued to be given to maximizing the Canadian content of defence electronic equipment that is developed or produced in this country. While some components are highly specialized and of limited application, the majority are standardized to exacting military specifications and require both formal quality approval of the product and approval of the manufacturer's ability to deliver consistently reliable products. Component firms were assisted in selecting items that could be economically produced. It is estimated that over the past decade a significant increase in the Canadian material content of defence and professional electronic products has been achieved. Expenditure on this effort amounted to about $280,000 in 1962, but the changing technology in the industry is already posing new threats to this achievement.

Shipbuilding

The shipbuilding programme during 1962 included work on six destroyer escorts, one tanker-supply vessel, one hydrographic survey vessel, one Pacific Naval Laboratory vessel, eleven auxiliary vessels, small boats, and related design planning and procurement work.

Work continued satisfactorily on all six destroyer escorts in the repeat-Restigouche programme. The lead vessel, HMCS MacKenzie, was completed and commissioned by the Royal Canadian Navy. The second vessel neared completion and will be commissioned early in 1963, and two additional vessels were launched and progressed to the final stages of completion.

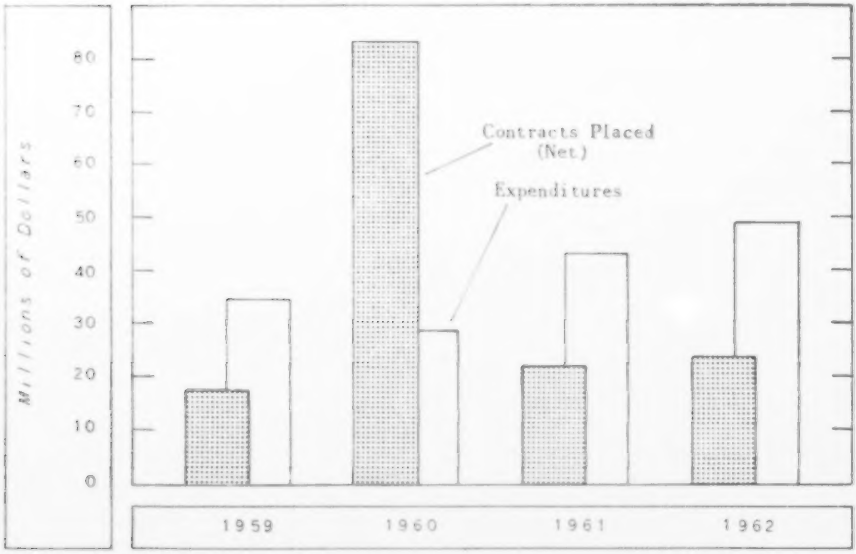
Work on the tanker-supply vessel, HMCS Provider, continued on schedule. This ship was launched and outfitting is proceeding.

Construction proceeded on the hydrographic survey vessel for the Department of Mines and Technical Surveys.

A contract was let late in the year for construction on the West Coast of an oceanographic and hydrographic research vessel for the Pacific Naval Laboratory. Contracts were also placed for a second standard diving tender, a dumb deperming barge, six landing floats and two diving floats. Work continued on a second tank cleaning barge.

Planning and scheduling activities began on the new general purpose Frigate programme.

Contracts Placed by the Shipbuilding Branch on behalf of the Department of National Defence and Related Expenditures



Maintenance of the Fleet involved 86 widely distributed contracts for ship repairs and refits during 1962 at an approximate value of $8.2 million. As mentioned in the previous Annual Report, a target incentive type of contract for major repairs and refits has been introduced. A general assessment of the cost reductions achieved by this form of contracting has shown a general tightening up in this area.

Contracts for the conversion of two destroyer escorts were placed during 1962 with two West Coast yards. These conversions will be completed during 1963. This work is highlighted by the fact that ceiling contracts with a target incentive arrangement were negotiated, the first time this has been done by the Department for such work.

The Naval Shipbuilding Central Procurement Agency continued its operation under the supervision of this Department. This Agency is responsible for the bulk purchase, distribution and accounting associated with the supply of much of the equipment and material required to be worked into vessels of major shipbuilding programmes.

Activity in the field of component procurement for the Royal Canadian Navy continued at a very high rate. This was largely for the repeat-Restigouche programme and for maintenance of the Fleet. Preliminary work began during the year on the procurement of long-lead items for the general purpose Frigate programme.

Negotiations were concluded for the supply of two sets of the Canadian designed variable depth sonar handling gear for a Commonwealth country.

The Shipbuilding Branch continued its activity in the Canada-United States defence development and production sharing programme. Canadian manufacturers received contracts for such items as valves, propellers, wire rope assemblies, rudders, sea refueling equipment and steel plates.

Machine Tools and Gauges

The Machine Tool Branch issued contracts valued at $501,000 in 1962 for machine tools, gauges and allied equipment for the Department of National Defence. A further $78,000 worth of machine tools were purchased for the Canadian external aid programme. Contracts valued at $739,000 were issued on behalf of other governments, primarily the United States.

The Branch also issued contracts amounting to $213,000 for the care, maintenance and custody of standby Crown owned defence assets. These contracts covered the cost of maintaining various facilities in standby condition or in storage, the cost of machine tool repair and overhaul, and the cost of transportation. Tooling for the CS2F Tracker aircraft was transferred from plants in Toronto and Fort William, Ont., to a company in Amherst, N.S., as a result of a decision to have the repair and overhaul of this aircraft done in the Maritimes.

The inspection and technical personnel of the Machine Tool Branch undertook plant surveys and time study reports, and provided technical assistance in connection with machine tools and general production capabilities, for other Branches of the Department.

The Machine Tool Branch's participation in the Canada-United States defence development and production sharing programme was greatly increased during the year. Arrangements were made whereby various units of United States Arsenals and a major United States defence contractor submitted bid sets to the Machine Tool Branch for direct sourcing to Canadian firms.

General Purchasing

The main function of the General Purchasing Branch is the procurement of a highly diversified range of goods and services usually available from the open competitive market. In 1962, the Branch issued 141,900 contractual documents valued at $179.7 million.

The headquarters segment of the Branch placed major contracts for heating and engine fuels, clothing and individual equipment, boots and shoes, motor vehicles and spare parts, construction, excavating and road maintenance equipment, electric wire, power and distribution equipment, canned and preserved foods, medical and dental equipment and supplies, chemicals and chemical products, paints, sealers and adhesives, photographic equipment and supplies, furniture, furnishings and appliances, paper products, containers, packaging and packing supplies, cleaning equipment and supplies, hand tools, hardware, materials handling equipment, fluorescent and incandescent lamps, metal bars, sheets and shapes, fire-fighting, rescue and safety equipment, instruments and laboratory equipment, rope, cable, chain and fittings, food catering, and aerial surveys.

The Branch participated in the preparation and implementation of standards outlining the minimum acceptable facilities and controls to be met by firms in the drug industry wishing to participate in the supply of Government requirements. Working in conjunction with the Department of Mines and Technical Surveys, standards were also developed to govern the listing of potential sources for aerial photography, mapping and associated work.

The product improvement phase of the programme covering the "Bobcat" family of light tracked vehicles progressed satisfactorily. Twelve preproduction pilot vehicles were in various stages of assembly at the end of the year.

Emergency health and welfare supplies and many requirements in support of the national survival programme were acquired, including anaesthetics, aluminum litters, hospital beds, blankets, portable X-ray units, portable decontaminating apparatus, parkas and insulated boots, rubber water storage tanks, sirens, and mapping.

Substantial external aid procurement was undertaken for Burma, India, Pakistan and a number of African countries, involving such items as turbines, mining cars, paper, bleached sulphite pulp, fertilizers, herbicides, cranes, tabulating equipment, power plant equipment, motor trucks, and steel grain silos.

Some research projects were undertaken during the year to improve purchasing performance. These included the most advantageous period of the year to contract for the supply of rubber footwear, textiles and batteries; the development of new sources of supply for such requirements as canisters for gas masks and military clothing items; the wider application of standing offer agreements

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for the supply of hardware, lumber, plumbing and electrical supplies at the regional level; and the improvement of contractual arrangements for the procurement of eggs, portable power tools and the servicing of ground fire-fighting equipment.

Contracts Placed by the General Purchasing Branch on behalf of the Department of National Defence and Related Expenditures

Fourteen district offices located across Canada purchased, from sources within their areas, goods and services required to support the daily activity of regional defence establishments. These district offices processed 125,100 contractual documents for a total value of $59.0 million. (These figures are included in the Branch figures shown above.) In addition to their normal procurement functions, district purchasing agents participated in exercises, conferences and training sessions associated with the national survival programme. It was necessary to develop supply arrangements for a number of radar stations formerly operated by the United States Air Force that were transferred to the Royal Canadian Air Force during the year.

Procurement by Offices Outside Canada

The Department's offices located outside Canada issued contracts valued at $15.8 million in 1962, as compared with $13.1 million in 1961.

The Washington Office handled all procurement from the United States Armed Services and, in a few exceptional cases, from commercial firms in the United States. Most procurement from United States commercial sources was made directly by the appropriate production or purchasing branch in Ottawa. Contracts issued by the Washington Office in 1962 amounted to almost $6.9 million. This Office also maintained regular liaison with many United States Government agencies, handled Canadian participation in the United States priorities and expediting systems, and supplied a wide range of information to Canadian Government officials. The Office spent much time on the Department's production and development sharing activities, which are covered in the next section of this Report. In this connection, it handled a large number of inquiries and arranged numerous meetings involving Canadian and United States Government officials, contractors and subcontractors. The Washington Office directed the activity of a sub-office at Wright-Patterson Air Force Base, Ohio, involving operations with the United States Air Force.

The London (England) Office issued all Departmental contracts in Britain, dealing with British Government agencies, such as the Admiralty, the Ministry of Aviation and the War Office, and a large number of commercial firms. The largest contracts with the British Government were for tank spares, while repair and overhaul of aircraft and equipment for the Royal Canadian Air Force in Europe accounted for a large value of the contracts placed with commercial establishments. A small sub-office located at Prestwick Airport, Scotland, expedited this repair and overhaul work. The London Office also directed sub-offices in Paris, France, and Koblenz, Federal Republic of Germany, which procure the normal requirements of the Canadian Forces stationed in those countries. This procurement is chiefly carried out through the Governments of the two countries. The London Office and its two continental sub-offices placed contracts valued at just over $8.9 million in 1962.

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Defence Production and Development Sharing

In 1962, $254.3 million worth of United States defence production sharing business was placed with Canadian industry. This is a 78 per cent increase over 1961, due largely to contracts for Caribou aircraft and a contribution by the United States to the joint Canada-United States F-104G aircraft programme. The total United States defence production sharing business in this country during the four years of the programme is $605.9 million.

On the other hand, Canadian defence production sharing business in the United States amounted to $127.4 million in 1962, bringing the total for the four years of the programme to $526.2 million. Thus, in 1962 United States defence production sharing business in Canada exceeded corresponding Canadian business in the United States by $126.9 million. While the balance of production sharing business between Canada and the United States had been $47.2 million in favour of the United States at the beginning of 1962, it had at least temporarily reversed by the end of the year to $79.7 million in Canada's favour.

Defence production sharing business between Canada and the United States is measured on the basis of definitions and statistical techniques approved by both countries. The classes of contracts included in the defence production sharing group are applied research and development, pre-production, production, licence agreements and technical assistance, installation (other than construction), and repair, overhaul and modification. The production sharing figures do not include contracts for "off-the-shelf" general procurement, construction, basic raw materials, fuels and lubricants, and services (such as transportation, rentals and maintenance of fixed installations). Thus, it is not possible to compare figures measuring the defence production sharing programme, which include subcontracts as well as selected areas of prime contracts, with figures in other sections of this Report that relate to the prime contracting for which this Department is directly responsible.

Regular monitoring and direction of the defence production sharing programme was provided by a Committee of senior officials of both Governments. The Canadian Government had representatives from the Departments of Defence Production, National Defence, Finance and External Affairs. The United States Government had representatives from its Departments of Defense, Army, Navy and Air Force and the newly established tri-service Defense Supply Agency.

Co-ordination of development sharing projects supported by the Department's development fund was provided by an Inter-departmental Committee made up of representatives from the Departments of Defence Production and National Defence and the Treasury Board staff.

The Department's Production Sharing Co-ordinating Office maintained close liaison with other Canadian Government departments and with appropriate authorities in the United States. Co-ordination with the Department of Trade and Commerce was continued to ensure that liaison opportunities provided by trade commissioners and trade shows in the United States were fully exploited. Defence Production field representatives stationed at major United States centres (see Appendix E) and the Department's Washington Office sustained their support of the programme. The production branches of the Department continued their close liaison with industry in order to maintain the high level of activity in the programme and to ensure the appropriate source listing of Canadian firms at the various United States military agencies.

During the year, continuing attention was given to simplifying procedural arrangements, such as those involved in the United States duty regulations, security matters, obtaining specifications and interpreting new instructions issued by the United States Department of Defense and military authorities.

A new edition of the "Production Sharing Handbook" was published, and 19,500 copies of this and the previous edition had been distributed to the end of 1962. A steady demand continued for the "Canadian Commodities Index", issued in 1961, and over 7,500 copies had been distributed to the end of the year.

Two new publications relating to research and development were published in 1962. One was a "Guide to Research and Development Capabilities in Canadian Defence Industry" designed to assist Government research and development agencies and defence industry in the United States to locate potential sources within Canadian industry. The other was a "Defence Development Sharing" handbook designed to assist Canadian companies in participating in United States defence research and development requirements.

The Defense Supply Agency, a new United States organization which has been assigned the overall logistic responsibility for certain common items used by all three Services, became party to the basic letter agreement between this Department and the United States military departments. The Agency defined those Canadian commodities excepted from the provisions of the Buy American Act.

Assistance was given to Canadian industry for research and development projects of interest to the United States Services. Contracts amounting to $8.5 million were issued in 1962 for this type of assistance, with expenditures totalling almost $6.8 million. Among the major new projects were surveillance and guidance systems, short take-off and landing (STOL) aircraft, communications and navigation equipment, and surface vehicles.

These efforts resulted in significant increases in bid solicitation and submissions in the prime contract area. United States inquiries to Canadian industry

rose from 5,786 in 1961 to 8,290 in 1962, and responses by Canadian companies rose from 1,799 to 2,384. Prime contracts placed by the United States Government with Canadian Commercial Corporation rose from 830 to 1,088, having a total value of $176.5 million. In the subcontract area, solicitations rose from 2,524 in 1961 to 3,108 in 1962, and responses rose from 1,986 to 2,624. Subcontracts received by Canadian firms increased from 1,111 to 1,769, valued at $76.5 million. Other prime contracts received directly from the United States Government by Canadian industry and other institutions totalled $1.3 million.

In addition to contributing to Canadian industrial defence technology, Canada's defence development and production exports, including the overseas business reported in the following section, now account for a very substantial part of industrial defence business. The achievements of the production and development sharing programme during 1962 have been encouraging, and the programme has become an increasingly important factor in the Canadian defence economy.

Canadian Co-operation in NATO on Research, Development and Production

CANADA'S activities in connection with the research, development and production programme of the North Atlantic Treaty Organization continued to be co-ordinated by the Department. This programme endeavours to attain maximum efficiency in the standardization and production of military requirements by member countries. The Department provided the Canadian representative on the NATO Armaments Committee, which administers the programme.

Canada has submitted for consideration by the NATO groups a number of projects in the fields of vertical and short take-off and landing (V/STOL) aircraft, mobile radar, vehicle navigation equipment, sonar equipment, personnel carriers, anti-tank weapons, anti-personnel land mines, airborne navigation aids, aircraft engines, telephone terminal equipment and data handling equipment. Of major interest were the Canadian aircraft industry's submissions of design studies for medium range transport and strike reconnaissance aircraft in the V/STOL class. The Canadian electronics industry also submitted design proposals on data handling equipment for a coastal escort and patrol craft system. Other projects of potential interest to the Canadian armament industry were under active consideration. There has been a broadening of the exchange of information on national research, development and production programmes.

Close liaison was maintained between this Department and the Department of National Defence and other Canadian Government agencies concerned with the programme. This Department, the Department of National Defence and the National Research Council provided representation at meetings in Paris to review most of the projects, and supplied detailed information on the Canadian proposals. In addition, representation was provided at meetings of existing groups of experts by various Government agencies.

In December 1962, the NATO defence ministers concurred in the report of a senior group recommending substantial changes to expedite the progress of the programme.

Defence Exports to Overseas Countries

As a result of the increased activities within NATO, a number of countries have expressed their interest in Canadian defence equipment. Canadian industry has been encouraged to participate in supplying the defence needs of European and other countries in such areas as aircraft flight simulators, navigation aids and engine spares. Visits and the exchange of information with countries at government and industry levels have proved of mutual benefit.

The Department continued to assist Canadian industry in seeking opportunities to develop and produce defence equipment for other countries. In addition to procurement offices in Europe and representation on the NATO delegation, the Department maintained defence production attachés in France and the Federal Republic of Germany. The Department also arranged for appropriate visits by officials to co-operate in meeting the defence equipment needs of overseas countries.

Some 50 Canadian firms received defence prime contracts and subcontracts, amounting to $45.1 million in 1962, from 40 overseas NATO and other countries (excluding the United States). The corresponding value for 1961 was $42.0 million. Prime contracts from overseas governments in 1962 amounted to $9.4 million, of which the major contract was for F-104G flight simulators for Italy. Subcontracts placed in Canada by overseas firms amounted to $35.7 million, the largest involving gyros, platforms and computers for a number of European countries, and aircraft and vehicle spares for the Federal Republic of Germany.

During 1962, the Canadian Government and Canadian industry ordered defence goods and services from overseas suppliers amounting to some $28.5 million.

Defence Production and Canadian Industry

DURING 1962, defence procurement and construction activity, including activity on foreign defence prime contracts and subcontracts placed in this country, represented approximately 2.1 per cent of Canada's gross national product. Production and employment in the aircraft industry were about the same in 1962 as in the preceding year, although a decline occurred in the latter months of the year as work on the CL-44 transport aircraft came to an end. In the shipyards, work on the destroyer escorts contributed to a generally higher level of activity. Defence work in the electronics industry decreased somewhat but this was more than offset by increased civilian production, particularly of television receivers. The armaments industry underwent a further decline in output during the year. Defence construction activity was strong in the early months but declined towards the end of the year.

The maintenance of an appropriate defence production base in Canada continued to receive emphasis in the Department. The defence production and development sharing programme and increased emphasis on the sale of Canadian military equipment to other Allied countries assisted in raising the level of industry's development and production competence as well as increasing the utilization of defence production capacity. The results of these activities are covered in previous sections of this Report.

The Department continued its programme of establishing qualified sources in this country for component parts and materials essential to the production of modern military equipment. Because of the urgent nature of many military requirements, this advance qualification will ensure the maximum participation of Canadian component firms in defence procurement, thus making Canadian producers less dependent on foreign sources of supply. A further aim is to prove the capability of producing a requirement at a competitive price, as well as to required performance standards, so that Canadian sources can meet both foreign and Canadian demand. Some $279,000 was spent on this programme in 1962, and new commitments amounting to $291,000 were made to establish qualified sources for the production of such items as precision electronic ceramics, synchros, high frequency silicon transistors, magnetrons, miniature precision gear boxes and variable composition resistors.

Government financed capital assistance to private industry involved the expenditure of $153,000 in 1962, most of which was for equipment for the environmental testing of electronic components, for the production of 105mm shot and for the extension of a runway. New capital assistance contracts amounted to $92,000. Title to all capital assistance assets remains with the Crown, and

the contractor responsible for their use is held accountable for their proper maintenance.

Interim certificates for additional capital cost allowance for income tax purposes (accelerated depreciation) were granted on almost $600,000 worth of capital assets in 1962. These assets were mainly required for the production of radomes, aircraft hydraulic components and the repair and overhaul of aircraft, aircraft engines and components.

In some cases Crown owned assets were rented to private firms for non-defence work, thus enabling defence production equipment to be further integrated into the civilian production process. The rentals charged were such as to ensure a fair return to the Crown on the assets concerned.

During the year, $1,056,000 was spent on the care, maintenance and custody of standby Crown owned defence production facilities and equipment where it was not possible to keep them operating for either defence or civilian requirements. The largest portion of this cost was for the maintenance of tooling for ships' engines.

The Department co-operated with the Defence Research Board in selecting projects for the defence industrial applied research programme, which was established in 1961 to promote and strengthen the research capability of Canadian defence industry. The Department negotiated and issued a number of contracts under this programme for the Board.

Materials Supply

The supply of Canadian prime metals and semi-fabricated materials in 1962 was sufficient to meet Canadian defence, atomic energy and production sharing programmes, but Departmental assistance was constantly required to obtain satisfactory deliveries of components to keep programmes on schedule. The supply of certain other types of metallic and non-metallic materials used in this country's defence and related programmes was dependent on allocations under the United States Defense Materials System. Canada's dependence on foreign sources for prime metals and basic materials decreased as new and expanded facilities came into production.

Canadian defence and atomic energy requirements for helium continued to depend on supplies from the United States. However, new helium deposits in Western Canada are being brought into production and it is anticipated that Canadian demands will be met from these sources in the near future.

Increased domestic and foreign demand resulted in a seven per cent rise in the production of primary aluminum. Canadian facilities producing mill forms operated at near capacity, and Departmental intervention was required to expedite urgent defence requirements.

Production of primary copper was reduced during the year. Although demand for mill forms continued at a high rate, supply was sufficient to meet world demand and no undue difficulties were encountered in meeting defence requirements. Production of primary nickel in Canada was decreased during the year due to a combination of a general lower demand and increased availability from one supplier that had completed delivery to the United States stockpile.

Sales of tin from the Department's stockpile to Canadian consumers were handled by the Department through a private broker. This disposal action was taken with the approval of the major tin producing and consuming countries, and with the understanding that sales would be made in a manner that would cause the least disruption to the economies of the producing countries. As a result, the sales were made at going market prices and at a rate that has not disrupted the normal market.

An increasing number of Canadian defence and atomic energy contractors have found it advisable to take full advantage of United States priorities, allocations and special assistance provided to Canadian contractors under the United States Defense Production Act. They have, in general, obtained very satisfactory results even when competing for conventional type war support items against an accelerated United States defence programme. Canada's major defence programmes were again included in the United States Master Urgency List, thus ensuring an equitable supply of strategic and critical materials to meet production schedules.

Emergency Supply Planning

In 1962, the Emergency Supply Planning Branch continued with plans and preparations to bring a War Supplies Agency into immediate existence in the event of a nuclear war. The Agency would assume control of the production, distribution and pricing of all civilian and military supplies except for certain aspects of the agricultural and fishing industries. The staffing of the national and regional components of the War Supplies Agency on a standby basis was completed, and good progress was made in the selection of zonal standby staffs. In several areas, a beginning was made in the selection of standby staff for local components.

The research programme on food stocks was extended. New surveys of inventory stocks and related production facilities were initiated in the materials field. In co-operation with the oil industry, energy vulnerability studies were begun and are continuing. In addition, economic studies of two emergency government zones and reports on specific segments of industry were completed. Although the research programme as a whole is primarily a long-term project, significant progress was made.

Various emergency regulations and orders required to bring the War Supplies Agency into existence and give it authority under the War Measures Act were reviewed in their peacetime draft form and brought up to date. Manning and warning procedures were revised, and a system for the control of personnel records of the national and regional standby staffs was instituted in co-operation with the Economics and Statistics Branch.

Plans for consumer rationing advanced to the point where sample ration documents were approved by an interdepartmental advisory committee. Agreement was reached on the transfer of a quantity of surplus military clothing to the Department of Defence Production for civilian use under War Supplies Agency control in an emergency. Also, the Government approved a programme of industrial preparedness measures developed by the Branch and assigned to this Department primary responsibility for implementing it.

In the fall of 1962, Branch officials took part in a NATO Exercise, primarily as a means of assisting the military Services in identifying their supply requirements. A course was conducted at the Canadian Civil Defence College covering resource analysis and local supply problems under nuclear war conditions.

At the end of the year the Branch had included on its staff a Regional Director in every province except Prince Edward Island, and had two zonal officers in Ontario.

Advisory and Service Branches

THE responsibilities of the Department's advisory and service branches were described in some detail in the Annual Report of the Department for 1961. The brief statements below contain the major activities or developments that occurred during 1962.

The Administration Branch continued to provide a wide range of services in the field of personnel administration. The Branch opened a Departmental library and established a foreign service unit to deal with the increased number of Departmental officers in the United States and Europe. The employee appraisal programme, designed to improve personnel standards, was expanded to include senior buyers in the General Purchasing Branch. Training and development programmes were characterized by a more intensive application of Departmental experience. A long-range personnel development programme was planned as a service to the procurement and production branches. The Branch's central typing pool was merged with the typing services provided by the Secretary's Branch. A study was made of the external procurement functions of the Department and Canadian Commercial Corporation so as to improve services in connection with export defence business. Initial action was taken on the recommendations that resulted from a typing and transcribing survey undertaken in the Department by the Civil Service Commission. Re-organization of the support staff structure in the General Purchasing Branch was initiated and will result in efficiencies in the typing and support functions.

The Comptroller's Branch provided the accounting service required by the Department. Records were maintained of all transactions against Departmental appropriations and of all assets and liabilities for which the Minister of Defence Production is responsible. Activity in connection with the administration of the Defence Production Revolving Fund was affected by the growing financial operations with respect to the Canada-United States mutual aid F-104G aircraft programme and production of CL-44D4 cargo aircraft and sonobuoys. The inspecting and recording of Crown owned productive assets with defence contractors has become more associated with specialized test items required by new programmes covering sophisticated defence equipment.

The Comptroller's Branch also provided the accounting, banking and financial services of Canadian Commercial Corporation. This work has increased during the year because of the greater volume of foreign defence business in Canada generated by the Canada-United States defence development and production sharing programme and the Department's emphasis on the export of military equipment to other Allied countries.

The financial position of the Department as at March 31, 1962, is shown in the Balance Sheet and related schedules in Appendix G, duly certified and reported upon by the Auditor General.

The Economics and Statistics Branch provided the general economic and statistical services required by the Department. A study of the Canadian electronics industry, undertaken because of its importance to defence production, neared completion at the end of the year. The Branch initiated a new periodic report on defence procurement between Canada and all Overseas countries (excluding the United States). This is in addition to the quarterly statistical report prepared in the Branch on the Canada-United States defence production sharing programme. Forecasts of future defence procurement expenditures were provided regularly throughout the year to the Department of National Defence. Approximately 165,000 contracts and related documents and some 300,000 pre-punched expenditure cards were analysed with the aid of data processing equipment. The volume of data processing for the Emergency Supply Planning Branch was much greater in 1962 than in the preceding year. Among the many ad hoc projects completed was one for the Royal Commission on Banking and Finance in connection with the time involved between receipt of requisitions from the Department of National Defence and the issuance of contracts by this Department, and between the placing of contracts and subsequent payments by National Defence.

The Financial Adviser's Branch advised on the development and application of financial policies related to defence contracts. This involved the review of major contract proposals to ensure the proper application of Departmental policies and the correct interpretation of requisitioned requirements. The Branch reviewed contract audit reports and assisted in resolving cost and profit problems arising from them. Studies were undertaken during the year on profit incentives for design changes and incentive target contracts, cost and profit positions for field service work, and the application of overhead costs to defence work. The Branch participated in reviews of the coverage of insurance policies relating to cost reimbursable contracts and of the profit position of follow-on contracts resulting from assistance provided under the defence production sharing programme. The Branch provided information on contractor liability for taxes and duties, and advised on related problems arising from contract negotiations. Applications for capital assistance or additional capital cost allowance (accelerated depreciation) were reviewed in the light of Departmental policy. Declarations of surplus items were screened for approval and the use of Crown equipment on non-Canadian defence work was assessed for rental charges. The preparation of the Department's estimates and the appropriations of associated Crown companies were co-ordinated. The Branch

administered municipal grants made in lieu of taxes on Crown owned defence plants operated by private contractors.

The Legal Branch advised on the legal implications of the policies and procedures of the Department and the legal steps required to protect the Department in its transactions. Legal work increased in regard to the United States purchase in Canada of F-104G aircraft for mutual aid to NATO countries, part of the cost of which is borne by Canada. This involved the drafting of production contracts under the programme as well as licensing and royalty agreements which had to be negotiated with corporations in Canada and the United States for associated technical data. Contracts were also prepared in respect of the new CT-114 jet trainer programme for the Royal Canadian Air Force, including licensing arrangements for the production by a Canadian contractor of the United States designed engine. Business obtained by Canada under the expanding defence development and production sharing programme with the United States involved extra legal work. This included advice regarding the formal contracts between the Government of the United States and Canadian Commercial Corporation as well as advice regarding the corresponding contracts with Canadian industry.

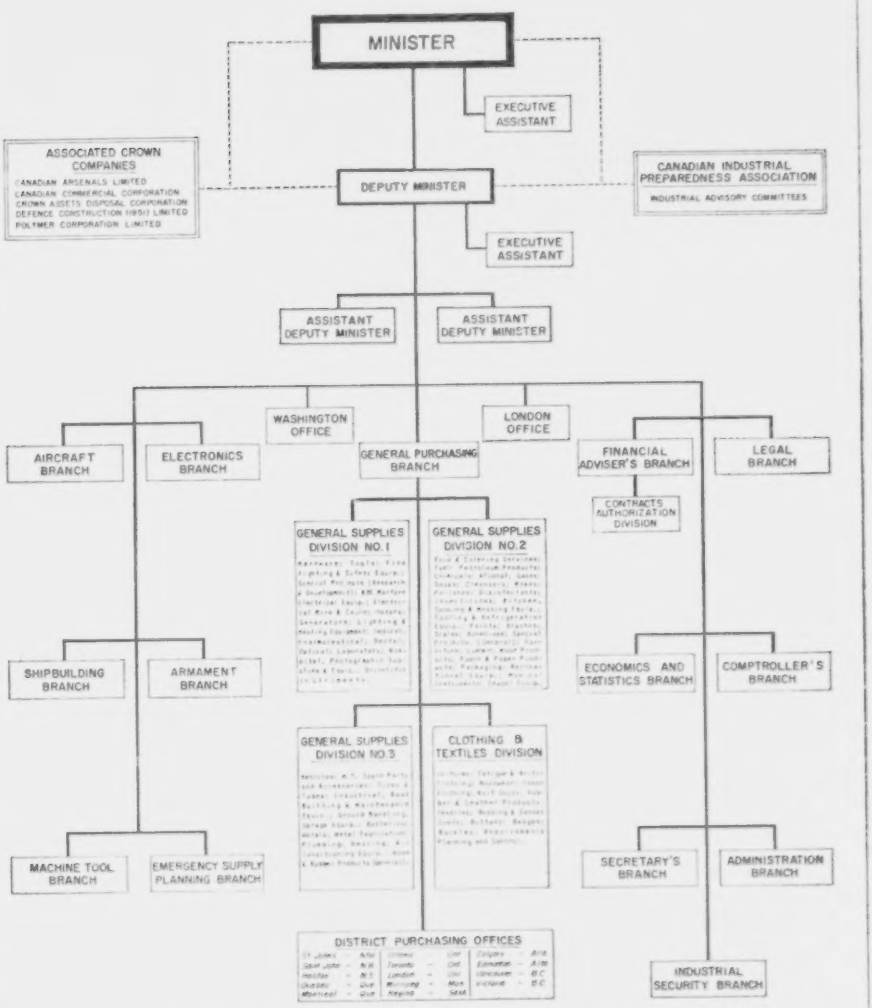
The Legal Branch performed all legal work required by Canadian Commercial Corporation.

The Secretary's Branch administered the Department's communications, printing and stationery, central registry and service divisions. The Secretary coordinated the emergency planning activities within the Department. The Branch, in co-operation with the various procurement branches, greatly extended the standardization of phraseology used in the various procurement documents. As a result, larger portions of such documents can now be produced by automatic typewriters with a resulting saving in personnel costs. The Branch improved procedures associated with the Department's source lists (lists of firms capable of producing required items) so the information would be more readily available to buying units. At the same time, part of the work of the service division was decentralized by attaching automatic equipment and operating personnel directly to individual buying units, thus bringing the preparation of procurement documents under the close supervision of their originators. The use of a modern telecommunication service, which provides more economical and direct exchange of messages with other subscribers in Canada, the United States and Europe, was extended and further installations will be made if traffic surveys indicate it will reduce costs. A quality control unit was constantly employed in reviewing the content of the 175,000 files required in the Department's operations with a view to eliminating obsolescent files and removing non-essential from active ones.

Appendix A

DEPARTMENT *of* DEFENCE PRODUCTION

ORGANIZATION *as at* DEC. 31, 1962



Appendix B

Senior Personnel of the Department

as at December 31, 1962

Minister

The Honourable Raymond O'Hurley, P.C., M.P.

Executive Assistant to the Minister ..... A. Trudel

Deputy Minister

G. W. Hunter

Assistant Deputy Minister ..... W. H. Huck
Assistant Deputy Minister ..... D. B. Mundy
Executive Assistant to the Deputy Minister ..... W. J. Mulock

Production Branches

Director, Aircraft Branch ..... D. L. Thompson
Deputy Director, Aircraft Branch ..... A. D. Belyea
Director, Armament Branch ..... C. L. Muir
Director, Electronics Branch ..... J. S. Glassford
Deputy Director, Electronics Branch ..... S. I. Comach
Deputy Director, Electronics Branch ..... T. C. Jones
Director, Machine Tool Branch ..... R. Mosher
Director, Shipbuilding Branch ..... J. C. Rutledge

General Purchasing Branch

Director ..... D. M. Erskine
Deputy Director ..... R. C. D. Laughton

Emergency Supply Planning Branch

Director ..... J. C. Morrison

Advisory and Service Branches

Financial Adviser ..... R. M. Keith
Deputy Financial Adviser ..... N. R. MacLean
Director, Contracts Authorization Division ..... R. E. Sayers
Comptroller ..... G. F. Wevill
Deputy Comptroller ..... T. E. Brown
Departmental Secretary ..... J. J. Tevlin
Director, Administration Branch ..... H. R. Kotlarsky
Director, Economics and Statistics Branch ..... W. J. W. V. Johnston
Director, Industrial Security Branch ..... L. C. Cragg
Director, Legal Branch ..... F. F. Waddell
Deputy Director, Legal Branch ..... C. S. Stevenson
Director, London (England) Office ..... R. D. Roe
Director, Washington Office ..... J. A. Teeter

Appendix C

Distribution of Departmental Staff

as at December 31, 1962

	Number of Employees
Minister's Office	11
Deputy Minister's Office	32
Aircraft Branch	159
Armament Branch	74
Electronics Branch	176
Machine Tool Branch	27
Shipbuilding Branch	103
General Purchasing Branch—	
Head Office	199
District Purchasing Offices	144
Emergency Supply Planning Branch	55
Administration Branch	80
Comptroller's Branch	86
Economics and Statistics Branch	37
Financial Adviser's Branch	52
Legal Branch	9
Secretary's Branch	167
Industrial Security Branch	24
Offices in the United States and Europe, and NATO Delegation, Paris	85
Total	1,520

Appendix D

Crown Companies Associated with the Department of Defence Production

as at December 31, 1962

Canadian Arsenals Limited

Chairman of the Board	J. G. Notman
President and General Manager	J. R. Brisson[1]
Vice-President	G. W. Hunter
Secretary-Treasurer	D. C. Cullen

Canadian Commercial Corporation

President	M. H. Lamoureux
Secretary and Legal Adviser	F. F. Waddell
Comptroller	G. F. Wevill

Crown Assets Disposal Corporation

President and General Manager	Louis Richard
Vice-President	G. W. Hunter
Assistant General Manager	I. M. Mackinnon
Secretary and Legal Counsel	M. J. Ellsworth

Defence Construction (1951) Limited

President and General Manager	R. G. Johnson
Secretary	J. D. Jennison
Treasurer	N. Tokaryk

Polymer Corporation Limited

Chairman of the Board	E. J. Brunning
President and Managing Director	E. R. Rowzee
Vice-President, Operations	L. D. Dougan
Vice-President, Finance	S. Wilk
Vice-President, Marketing	R. E. Hatch
Vice-President, Research and Development	Dr. E. J. Buckler
Secretary and Chief Legal Officer	W. J. Dyke

[1] Effective February, 1963.

Appendix E

District Purchasing Offices and Offices Located Outside Canada

Addresses as at December 31, 1962

District Purchasing Offices

ST. JOHN'S, NFLD.	Room 401, Main Post Office Building, Water Street. (P.O. Box 487).
HALIFAX, N.S.	Room 527, Federal Building, Bedford Row. (P.O. Box 1655).
SAINT JOHN, N.B.	Room 408, Sadim Building, Canterbury & Duke Streets.
QUEBEC, P.Q.	126 St. Peter Street. (P.O. Box 70—Station "B").
MONTREAL, P.Q.	685 Cathcart Street.
OTTAWA, ONT.	953 Somerset Street West.
TORONTO, ONT.	Room 1214, Mackenzie Building, 36 Adelaide Street East.
LONDON, ONT.	388 Dundas Street. (P.O. Box 2275—Terminal "A").
WINNIPEG, MAN.	Room 326 E, 344 Edmonton Street.
REGINA, SASK.	302, New Post Office Building, Cornwall & S. Railway Streets.
CALGARY, ALTA.	Room 725, Public Building, 8th Avenue & 1st Street East.
EDMONTON, ALTA.	Room 309, Federal Building, 107th Street & 99th Ave.
VANCOUVER, B.C.	Room 407, Federal Building, 325 Granville Street.
VICTORIA, B.C.	Room 318, Canada Customs House, 816 Government Street.

Offices Located Outside Canada

WASHINGTON, U.S.A.	Canadian Department of Defence Production, 2450 Massachusetts Ave., (P.O. Box 4897, Cleveland Park Station), WASHINGTON 8, D.C., U.S.A.
Sub-Office	MCL DDP Wright-Patterson Air Force Base, OHIO, U.S.A.

PRODUCTION SHARING LIAISON OFFICES

Canadian Department of Defence Production,
c/o Canadian Consulate General,
680 Fifth Ave.,
NEW YORK 19, N.Y., U.S.A.

ROP/DDP
Rome Air Materiel Area,
Griffiss Air Force Base,
ROME, N.Y., U.S.A.

Canadian Department of Defence Production,
AMC/ESC/LEX,
L.G. Hanscom Field,
BEDFORD, Mass., U.S.A.

Canadian Department of Defence Production,
c/o U.S. Army Electronics Materiel Agency-
SELMA-A13,
225 South 18th Street,
PHILADELPHIA 3, Pa., U.S.A.

Canadian Department of Defence Production,
c/o U.S. Army Ordnance District,
1580 East Grand Blvd.,
DETROIT 11, Mich., U.S.A.

Canadian Department of Defence Production,
HQ Los Angeles Contract Management
District,
United States Air Force,
Room 546, 1206 South Maple Avenue,
LOS ANGELES 15, Calif., U.S.A.

LONDON, ENGLAND ..... Canadian Department of Defence Production,
1 Grosvenor Square,
LONDON W. 1, England.

Sub-Offices ..... Canadian Department of Defence Production,
1 rue Chanez,
PARIS 16e, France.

Canadian Department of Defence Production,
54 KOBLENZ-PFAFFENDORF,
Emserstrasse 21,
Federal Republic of Germany.

Canadian Department of Defence Production,
c/o Scottish Aviation Limited,
PRESTWICK AIRPORT,
Ayrshire, Scotland.

OFFICE OF DDP REPRESENTATIVE TO THE NORTH ATLANTIC COUNCIL	OTAN-NATO, Place du Maréchal de Lattre de Tassigny, PARIS 16e, France.
DEFENCE PRODUCTION ATTACHÉ	c/o Canadian Embassy, 35 avenue Montaigne, PARIS 8e, France.
DEFENCE PRODUCTION ATTACHÉ-CANADIAN REPRESENTATIVE TO THE EUROPEAN ORGANIZATION FOR DIRECTION AND CONTROL F-104G	c/o Canadian Embassy, Zitelmannstrasse 22, BONN, Federal Republic of Germany.

Appendix F

Statistics of Defence Contracts and Expenditures

The statistical tables in this Appendix contain information for calendar years 1961 and 1962 on contracting and related spending in connection with the Canadian defence procurement and construction programme and with foreign government prime defence contracts placed through Canadian Government agencies. These statistics measure the value of contracts as they are issued to contractors and suppliers and the value of payments as they are made to them.

The net value of contracts issued, as shown in these tables, includes the value of amendments which increased or decreased commitments under existing contracts, as well as the value of new contracts. In some cases, therefore, credit net values are shown because decreasing amendments to contracts placed in earlier years have exceeded the value of new contracts and increasing amendments issued.

Some of the figures for 1961 have been revised since they were published in the preceding issue of the Annual Report of the Department. Also, the totals shown do not always equal the sum of the component figures because of rounding the figures to the nearest thousand dollars.

The tables are grouped in pairs, with the first "a" containing data on the net value of contracts issued and the second "b" containing the value of expenditures against these contracts and against similar contracts placed in earlier years.

Tables 1-a and 1-b contain summary statistics relating to all contracts issued by the Department of Defence Production and its associated Crown companies, Defence Construction (1951) Limited and Canadian Commercial Corporation, with the exception of those involving payments out of the Defence Production Revolving Fund. Both contract and expenditure data are broken down by the various sources that requisition and pay for the goods or services involved.

Tables 2-a and 2-b contain statistics related to contracting by the Department of Defence Production and Defence Construction (1951) Limited on behalf of the Department of National Defence. Payments against these contracts are made from funds appropriated by Parliament for the Department of National Defence. The figures in these tables are broken down by defence programmes (as defined below) and the country in which the prime contractor is located (based on the address to which the contract is sent). The data contained in Tables 2-a and 2-b are similar to those contained in Tables 1-a and 1-b to Tables 4-a and 4-b in previous Annual Reports of the Department.

Tables 3-a and 3-b provide data relating to prime defence contracts placed in Canada by foreign governments through Canadian Government agencies, such as Canadian Commercial Corporation. The Department of Defence Production issues most of the contracts for Canadian Commercial Corporation.

Tables 4-a and 4-b relate to certain activities in support of Canadian defence industry that are financed from Defence Production Parliamentary appropriations.

Definitions of the Defence Programmes

The general concept involved in this defence programme classification is that of relating all procurement, as far as possible, to a readily identifiable military end-item, such as an aircraft, a ship, an electronic device, a gun, a type of ammunition, an item of clothing, etc. Thus a particular programme includes, in addition to the end-item, those components or parts that become an integral part of the end-item, as well as associated services such as design and development, installation, maintenance and repair and overhaul.

AIRCRAFT: This programme includes complete aircraft and items to be physically incorporated in complete aircraft, such as airframes, engines, propellers, navigational and flight instruments, electrical systems and their components. The repair and overhaul of aircraft is also included. Excluded are accessories such as armament and communication equipment, photographic equipment, training devices and ground support equipment.

ARMAMENT: This programme includes weapons such as small arms, guns, howitzers and their components; light, medium and heavy ammunition of all types, including mines, depth charges and torpedoes; rockets and missiles and their launchers; and explosives and certain defence chemicals. Electronic fire controls are not included.

ELECTRONICS: Electronics and communication equipment of all types are in this programme, including telephone, telegraph, radio and radar equipment. Underwater sound equipment, fire control equipment and flight and tactics simulators are also included. Development, maintenance, management and transportation services associated with the procurement of electronic and communication equipment are in this programme. (This programme was formerly identified as the Electronics and Communication Equipment programme.)

SHIPS: This programme includes destroyer escorts, frigates, minesweepers, aircraft carriers, and other floating equipment, and ship components such as hulls and superstructures, propulsion machinery, boilers, condensers, heating and electrical systems. Reconversion, refit and repair of ships are also included. Armament and electronic gear are excluded.

TANK-AUTOMOTIVE: Included in this programme are tanks and vehicles of both armoured and non-armoured types. Cars, trucks and buses and their components, such as tires and tubes, are included. Excluded are armament and electronic equipment.

FUELS AND LUBRICANTS: This programme includes petroleum, gas, coal and coke, and their products, principally aviation turbine fuel and gasoline, motor vehicle gasoline, and heating fuels.

CLOTHING AND EQUIPAGE: All items of personal clothing, including footwear, and of personal equipment, such as mess kits and steel helmets, are in this programme.

CONSTRUCTION: This programme includes all construction contracts for building structures, runways, etc., as well as for consultant services, repairs and maintenance. Most of these contracts are placed by Defence Construction (1951) Limited.

Table 1-a.—Net Value of All Contracts Issued

Sources for which Contracts Issued	1961	1962
	$000	$000
Department of National Defence	528,773	536,666
Department of Defence Production:		
Votes in Support of Defence Industry	15,894	9,387
Foreign Governments:		
United States	97,516	202,887
Britain	2,053	1,147
Federal Republic of Germany	—	14,333
Other Governments	1,006	7,253
Canadian External Aid	9,855	24,981
Other	5,611	985
Total	660,707	797,639

Table 1-b.—Expenditures Against All Contracts Issued

Sources Paying the Contracts	1961	1962
	$000	$000
Department of National Defence	622,535	606,374
Department of Defence Production:		
Votes in Support of Defence Industry	7,544	8,971
Foreign Governments:		
United States	93,181	127,747
Britain	2,374	1,213
Federal Republic of Germany	10	4,361
Other Governments	799	2,527
Canadian External Aid	11,420	9,214
Other	4,438	4,224
Total	742,301	764,631

Appendix F—*Continued*

Table 2-a.—Net Value of Canadian Government Defence Contracts

1962

Programme	Canada	United States	Britain	France	Other Countries	Total
	$000	$000	$000	$000	$000	$000
Aircraft	186,734	16,447	1,855	3	212	205,252
Armament	14,517	3,120	250	7,576	4	25,466
Electronics	73,033	8,500	671	382	200	82,785
Ships	27,351	253	185	—	51	27,841
Tank-automotive	7,182	804	671	45	221	8,924
Fuels and lubricants	38,057	11	163	85	289	38,605
Clothing and equipage	12,712	8	80	5	8	12,814
Construction	38,125	—	—	—	1,318	39,443
Other	88,811	2,973	1,297	1,351	1,104	95,536
Total	486,523	32,117	5,171	9,446	3,408	536,666

1961

Programme	Canada	United States	Britain	Other Countries	Total
	$000	$000	$000	$000	$000
Aircraft	110,371	1,322	940	60	112,693
Armament	8,028	2,676	1,014	94	11,812
Electronics	110,513	9,729	1,510	841	122,593
Ships	25,374	892	319	[a]	26,585
Tank-automotive	10,227	16	363	375	10,981
Fuels and lubricants	48,579	10	117	264	48,972
Clothing and equipage	11,772	59	58	8	11,897
Construction	89,815	—	—	857	90,671
Other	87,055	2,043	701	2,771	92,569
Total	501,734	16,747	5,022	5,270	528,773

[a] Less than $500.

Table 2-b.—Expenditures Against Canadian Government Defence Contracts

1962

Programme	Canada	United States	Britain	France	Other Countries	Total
	$000	$000	$000	$000	$000	$000
Aircraft	171,536	17,702	1,577	3	82	190,900
Armament	13,163	1,779	990	12	4	15,948
Electronics	97,127	14,327	1,501	382	200	113,537
Ships	52,347	741	414	—	—	53,503
Tank-automotive	8,133	826	563	45	250	9,818
Fuels and lubricants	37,261	8	73	85	284	37,711
Clothing and equipage	10,615	65	74	5	4	10,763
Construction	79,646	—	—	—	1,155	80,802
Other	87,782	2,207	959	1,351	1,093	93,393
Total	557,612	37,655	6,152	1,883	3,072	606,374

1961

Programme	Canada	United States	Britain	Other Countries	Total
	$000	$000	$000	$000	$000
Aircraft	193,953	24,742	2,988	70	221,751
Armament	17,028	3,039	2,896	94	23,057
Electronics	101,452	20,106	1,439	841	123,838
Ships	44,835	763	380	—	45,978
Tank-automotive	7,590	43	403	375	8,411
Fuels and lubricants	37,695	8	88	256	38,048
Clothing and equipage	7,049	3	46	6	7,103
Construction	67,123	—	—	17 cr	67,106
Other	80,470	3,138	850	2,784	87,242
Total	557,195	51,842	9,090	4,408	622,535

Table 3-a.—Net Value of Foreign Government Prime Contracts Placed in Canada

1962

Programme	United States	Britain	West Germany	Other Countries	Total
	$000	$000	$000	$000	$000
Aircraft	149,708	[a]	1	102	149,811
Armament	6,916	446	10	357	7,730
Electronics	37,581	232	14,280	6,438	58,531
Fuels and lubricants	2,234	—	—	—	2,234
Construction	3,435	—	—	—	3,435
Other	3,012	468	42	356	3,879
Total	202,887	1,147	14,333	7,253	225,620

[a] Less than $500.

1961

Programme	United States	Britain	Other Countries	Total
	$000	$000	$000	$000
Aircraft	32,206	33	333	32,573
Armament	6,249	110	156 cr	6,203
Electronics	32,423	1,326	600	34,350
Fuels and lubricants	8,615	—	—	8,615
Construction	15,067	—	—	15,067
Other	2,954	584	228	3,766
Total	97,516	2,053	1,006	100,574

Appendix F—*Continued*

Table 3-b.—Expenditures Against Foreign Government Prime Contracts Placed in Canada

1962

Programme	United States	Britain	West Germany	Other Countries	Total
	$000	$000	$000	$000	$000
Aircraft	71,817	16	1	200	72,035
Armament	5,820	265	10	368	6,462
Electronics	33,677	471	11	463	34,624
Fuels and lubricants	4,626	—	—	—	4,626
Construction	9,275	—	—	—	9,275
Other	2,531	461	4,339	1,496	8,826
Total	127,747	1,213	4,361	2,527	135,849

1961

Programme	United States	Britain	Other Countries	Total
	$000	$000	$000	$000
Aircraft	35,858	—	247	36,105
Armament	3,082	1,547	152	4,782
Electronics	32,908	251	239	33,398
Fuels and lubricants	6,488	—	—	6,488
Construction	13,044	—	—	13,044
Other	1,802	576	169	2,547
Total	93,181	2,374	809	96,364

Table 4-a.—Net Value of Contracts to Assist Canadian Defence Industry

Category of Assistance	1961	1962
	$000	$000
Care, maintenance and custody of Crown owned standby defence assets	204	293
Capital assistance	116	92
Establishment of competitive production capacity through absorbing certain preproduction and tooling costs	1,370	245
Establishment of qualified sources for the production of component parts and materials	360	291
To sustain research and development capability in Canadian industry in order to assist the Canada-United States development and production sharing programme	13,844	8,466
Total	15,895	9,387

Table 4-b.—Expenditures Against Contracts to Assist Canadian Defence Industry

Category of Assistance	1961	1962
	$000	$000
Care, maintenance and custody of Crown owned standby defence assets	806	1,056
Capital assistance	923	153
Establishment of competitive production capacity through absorbing certain preproduction and tooling costs	678	703
Establishment of qualified sources for the production of component parts and materials	499	279
To sustain research and development capability in Canadian industry in order to assist the Canada-United States development and production sharing programme	4,637	6,781
Total	7,544	8,971

Appendix G

Report to the Minister on the Audit of the Accounts of the Department

for the year ended March 31, 1962

OTTAWA, November 1, 1962.

The Honourable Raymond O'Hurley,
Minister of Defence Production,
Ottawa, Canada.

SIR,

An examination having been made of the accounts maintained and the financial statements prepared by the Department of Defence Production for the year ended March 31, 1962, I now report that in my opinion,

(*a*) proper books of account have been kept by the Department;

(*b*) the financial statements of the Department

(i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account;

(ii) in the case of the balance sheet, give a true and fair view of the state of the Department's affairs as at the end of the financial year;

(iii) in the cases of the statements of expenditure and of receipts and the summary of transactions in surplus arising from trading operations, give a true and fair view of the operations of the Department for the financial year; and

(*c*) the transactions of the Department that have come under my notice have been within the powers of the Department under the Defence Production Act and any other Act applicable to the Department.

In accordance with established governmental practice, the Crown owned capital assets for which the Department is accountable are carried on the balance sheet at cost, without showing any deduction with respect to depreciation.

Yours faithfully,
A. M. HENDERSON
Auditor General.

Balance Sheet as at March 31, 1962

General Account

Assets			Liabilities and Government Equity	
Cash		$ 409,362	Accounts payable	$ 343,035
Accounts receivable—			Sundry liabilities	401,606
Purchasers of Crown plants and equipment	$ 10,621,597		Equity of Government of Canada, Exhibit II	229,261,456
Other	13,913			
		10,635,510		
Advances—				
Crown agencies	17,500,000			
Other	13,784			
		17,513,784		
Investments, at cost—				
Polymer Corporation Limited, capital stock	30,000,000			
Township of Toronto, 3% debentures 1962-71	265,144			
Defence Construction (1951) Limited, capital stock	30			
Canadian Arsenals Limited, capital stock	28			
		30,265,202		
Crown owned lands, buildings, machinery and equipment, at cost, including rehabilitation and installation costs—				
With contractors	54,864,565			
In warehouse	5,219,246			
		60,083,811		
Crown owned plants, at cost—				
Canadian Arsenals Limited	101,363,455			
Other	9,734,973			
		111,098,428		
		$ 230,006,097		$ 230,006,097

REVOLVING FUND

Accounts receivable	$ 746,607	Accounts payable		$ 1,525,906
Progress payments to suppliers	14,511,648	Progress payments from customers		730,485
Working capital advances	4,750,000	Equity of Government of Canada—		
Inventories, strategic materials, etc., at cost	13,563,559	Revolving Fund, as provided by Defence Production Act, Section 16 (authorized $100,000,000), net expenditure	$27,296,568	
		Inventory taken over by Department at inception	3,728,584	
		Surplus arising from trading operations, Exhibit V	290,271	
				31,315,423
	$33,571,814			$33,571,814

In addition to the assets listed above, the Department has recorded in its books expenditure in the amount of $252,298,917 for production tooling, dies and jigs, title to which is vested in the Crown.

Approved on behalf of the Department:

G. W. HUNTER
Deputy Minister

G. F. WEVILL
Comptroller

Certified in accordance with my report dated November 1, 1962, to the Minister of Defence Production.

A. M. HENDERSON
Auditor General

Exhibit II

Summary of Transactions in Equity of Government of Canada Account

for the year ended March 31, 1962

Balance at April 1, 1961	$ 234,831,770	
Additions:		
Assets acquired from appropriations	519,622	
Transfer of assets from other departments and Crown agencies	2,592,197	
Increase in working capital advance to the Canadian Commercial Corporation ($5,000,000 less $2,000,000 refund per Exhibit IV)	3,000,000	
		$ 240,943,589
Reductions:		
Receipts from sales, etc., Exhibit IV	1,501,159	
Transfer of surplus assets to Crown Assets Disposal Corporation	8,830,154	
Decrease in fixed assets in custody of Canadian Arsenals Limited	524,062	
Transfer of assets to other departments and Crown agencies	485,494	
Assets written off due to completion of contracts, dismantling, etc.	335,418	
Accounts receivable written off as authorized by Parliamentary Vote 710	5,846	
		11,682,133
Balance at March 31, 1962		$ 229,261,456

Exhibit III

Statement of Expenditure

for the year ended March 31, 1962

Vote			
67	Departmental administration		
	Salaries	$ 8,297,919	
	Living allowances	157,677	
	Travelling expenses	306,608	
	Office stationery, supplies and equipment	266,350	
	Telephones and telegrams	205,141	
	Professional and special services	110,981	
	Postage	62,464	
	Freight, express and cartage	13,170	
	Rental of office accommodation	2,277	
	Publication of departmental reports and other material	1,531	
	Sundries	70,919	
			$ 9,495,037
68 and 690	Care, maintenance and custody of standby defence plants, buildings, machine tools and production tooling		877,016
69 and 507	Capital assistance		
	Capital account—		
	Construction, improvements and acquisition of land	627,227	
	Equipment	131,059	
	Establishment of production capacity	18,067	
	Income account—		
	Establishment of production capacity	933,644	
			1,709,997
70	Grants to municipalities in lieu of taxes		119,474
71	Establishment of qualified sources for production of component parts and materials		
	Capital account	9,700	
	Income account	364,824	
			374,524

72 and 624	Sustainment of technological capability in Canadian industry		4,672,046
73	Defence Construction (1951) Limited—Administration		$ 3,459,615
	Canadian Arsenals Limited—		
74 and 691	Administration and operation		3,169,725
75	Construction and improvements	$ 28,455	
75	Equipment	262,092	
			290,547
Statutory			
	Minister of Defence Production—		
	Salary	15,000	
	Motor car allowance	2,000	
			17,000
	Refund of prior year's rental revenue		9,153
	Total expenditure		$24,194,134

Exhibit IV

Statement of Receipts

for the year ended March 31, 1962

Receipts on Income Account—		
Sales of surplus Crown assets	$ 9,627,987	
Return on investments	3,924,658	
Rentals of buildings and equipment	278,778	
Refunds of previous years' expenditure	6,074	
Miscellaneous	5,357	
		$13,842,854
Receipts on Capital Account—		
Sales of plant and equipment by the Department	1,472,438	
Repayment of debentures	22,455	
Recoveries of advances and accounts receivable	6,266	
Total per Exhibit II	1,501,159	
Repayment of working capital advance, Canadian Commercial Corporation	2,000,000	
		3,501,159
		$17,344,013

Exhibit V

Summary of Transactions in Surplus Arising from Trading Operations, Revolving Fund

for the year ended March 31, 1962

Balance at April 1, 1961		$ 184,975
Additions:		
Sales, less cost of materials sold—		
Cloth, Sales	$ 5,162	
Cloth, Cost of Sales	3,361	
		1,801
Strategic materials, Sales	2,319,515	
Strategic materials, Cost of Sales	2,078,763	
		240,752
Munitions and components, Sales	903,344	
Munitions and components, Cost of Sales	903,344	
Research and development, Sales	290,714	
Research and development, Cost of Sales	290,714	
Shipbuilding components, Sales	79,898	
Shipbuilding components, Cost of Sales	79,898	
		427,528
Reductions:		
Warehousing and other expenses—Cloth		
Wages	5,301	
Rent	121,806	
Sundries	4,593	
	131,700	
Warehousing expenses—strategic materials	5,557	
		137,257
Balance at March 31, 1962		$ 290,271